MTS Systems Corp/Sensors Div

North Carolina Manufacturing Extension Partnership

New Plant Layout Gives Mts Systems Corporation Room To Grow

Client Profile:
MTS Systems Corporation - Sensors Division is a manufacturer of linear displacement transducers and sensors for liquid tank levels. Its facility is located in Cary, North Carolina, and has approximately 180 employees.

Situation:
MTS's facility includes a pipe-shop area, of which approximately half is dedicated to a machining job-shop consisting of 2-4 people and 10 machines, including a tech/lab room and an overhead mezzanine. The other half is dedicated to production, including 4-5 people and 5 workstations for pipe cutting, brazing, and assembly.
The pipe-shop area had limited space, which crowded equipment and personnel. These constraints were compounded by the need to add additional equipment. MTS needed facility layout assistance to optimize space utilization and improve work flows. The company needed space to add new equipment while ensuring rapid order response, in-sourcing additional work, and building sufficient storage space. MTS called on the experts at the Industrial Extension Service (IES) of North Carolina State University (NCSU), a NIST MEP network affiliate, for help.

Solution:
IES arranged for several NCSU engineering students to work under the direction and guidance of an IES specialist for industrial engineering and ergonomics to provide plant layout solutions for MTS. Under the supervision of IES, the students conducted extensive on-site engineering analysis.
IES began by analyzing the existing facility's layout. Students made an AutoCAD drawing of existing equipment, input/output access, material storage, people, and workflow paths. Then they created a space utilization spreadsheet analyzing percent allocations for workstations, people, equipment, access, storage, and aisles. The spreadsheet was complimented by a material flow analysis table showing existing travel distances for major product categories and overall total.
IES continued its analysis by designing the new/optimized facility layout and creating an additional capacity plan. Students drew AutoCAD designs of optimal locations for equipment, input/output access, material storage, people, and workflow paths. They adjusted the existing space utilization spreadsheet to show new percent allocations for workstations, people, equipment, access, storage, and aisles, and revised their material flow analysis to optimize

travel distances for major product categories and overall total.
As a result, MTS gained additional percent capacity via its new/optimized layout and dramatically increased the amount of additional work that can be in-sourced.

Results:
Successfully completed new plant analysis and layout.
Saved $180,000 per year by improving workflow efficiency, space utilization, and output capacity.

Testimonial:
"Once again, NCSU's Industrial Extension Service has successfully assisted us with solving technical challenges and thereby has contributed to MTS's financial success and our capability to maintain jobs in North Carolina."
David Perrotta, Production Manager